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In the Field

The Bulletin of the Field Museum of Natural History

July/August 1991

THE ORIGIN
OF MODERN
HUMANS

THE
COELACANTH
OR THE
LUNGFISH?

SUMMER
PROGRAMS
AND FIELD
TRIPS

FLORA PORTRAYED:
CLASSICS OF
BOTANICAL ART



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NEW DEBATE ON THE COELACANTH

The Maori meeting house will be renovated and reopened as a resource center.

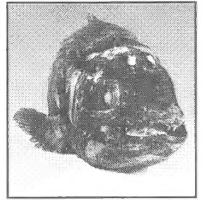
The Women's Board marks its 25th, and most of the founders are still on board.

July/August events: exhibits, field trips, lectures, and special arts programs.

A West Side teacher uses Museum training and materials to best effect.

The scientific controversy over the coelacanth "has legs," as they say in show biz, whether or not this ancient fish turns out to have been the ancestor of animals that do.

Page 3



WHO ARE WE TO NEANDERTHAL, OR HE TO US?

By Ron Dorfman
Editor, *In the Field*

Dozen scholars from England, France, Israel, and the United States gathered at the Field Museum on a beautiful Saturday in May to carry on a debate that has been running in scientific journals for ten years, and about 600 people paid good money to sit all day in a sweltering auditorium and listen to them.

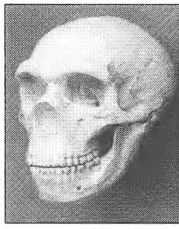
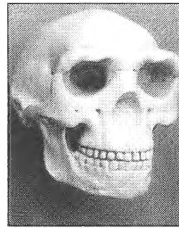
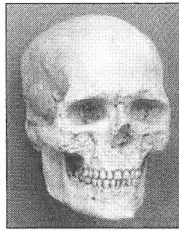
But there were few defections from the audience, for the subject at hand — the origin of anatomically modern humans — is the stuff of primeval yearnings even among the intellectually à la mode. And both competing hypotheses — on the one hand, that all contemporary populations (or "races") are the result of a single, relatively recent evolutionary event that occurred in Africa, and on the other that there were multiple but parallel evolutionary developments on each Old World continent — have potential reverberations in a distinctly non-scientific world where ideas about race have political consequences.

The leading proponents of each viewpoint were on hand, so the discussion was lively and even at times testy, what with upstart geneticists muscling in on the academic turf traditionally held by paleontologists. Nevertheless, if one disregarded the absence of air conditioning there was more light than heat, and all was leavened by a nostalgia for the Field Museum's

"Early Man" dioramas and "Fossil Man's Hall of Fame" cases that had long ago sparked the childhood interest that led several of the researchers to make their careers in the field. (Even as they spoke, the exhibit was being dismantled; a new exhibit, "Life Over Time," will open in 1993.)

This was not a debate about "Lucy" (*Australopithecus afarensis*, 3.8 million years old), discovered by Donald C. Johansen in Ethiopia in 1974, or about the other proto-humans such as *Homo habilis* whose remains have been found at Olduvai Gorge in Tanzania and at other sites in Africa, some of which date back as far as 5.5 million years. No one doubts that they are the earliest known human-like creatures and that there is a direct line of descent from them to us.

Rather, the question at issue has to do with much more recent events, between, say, 200,000 and 35,000 years ago — the last half-hour or so on the human evolutionary clock. In this period there were populations of archaic *Homo sapiens* (sometimes designated *Homo sapiens neanderthalensis*) in Europe, Africa, and Asia who looked more or less like Neanderthal Man (below and right), and Peking Man (center). They are distinguished by their thick skulls, prominent brow ridges, forward-jutting faces, the



arrangement of their cheekbones, jaws, and teeth, and the configuration of the spine, pelvis, and hip joints, among other anatomical features.

After 35,000 B.P. [before the present time], those people ceased to exist. And we — *Homo sapiens sapiens*, anatomically modern humans who looked more or less like Cro-Magnon Man, pictured above — occupied the Old World and then Australia, Oceania, and the Americas as well.

The question is: What happened to the Neanderthals and their contemporaries? And where did we come from?

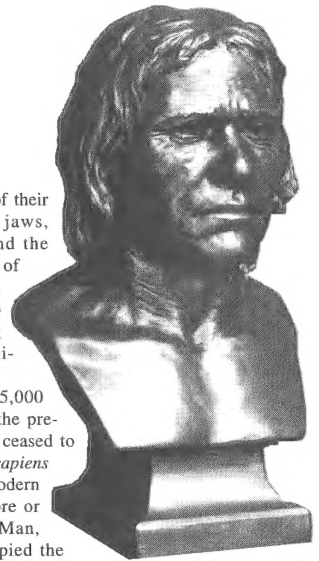
Are we a mutant species descended from the Neanderthals? If so, how did it happen that evolution took such dead aim

at achieving identical results on three continents?

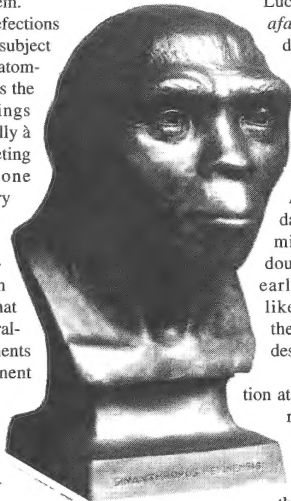
Or do we represent an evolutionary line different from the Neanderthals, with the closest common ancestor farther back in time? If so, where and when did we evolve — and what if anything did we do to the Neanderthals?

Christopher B. Stringer, a paleontologist at the Natural History Museum, London, argues that anatomically modern humans first appeared in Africa about 100,000 years ago while archaic humans were subdividing into Euro-

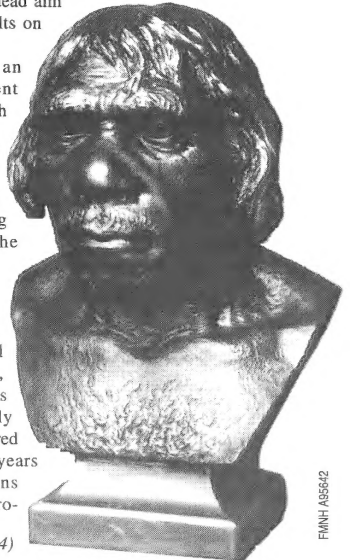
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Skull and Bust Society: Alumni of the former Fossil Man's Hall of Fame. Immediately above and at left are representations of Neanderthals, showing a possible physiognomy and a likely domestic scene at Gibraltar. Center, Peking Man, an Asian contemporary (about 50,000 years ago) of European late Neanderthals. Top, Cro-Magnon Man, a European version of modern *Homo sapiens sapiens*.

FMNH A102513



By Willard L. Boyd
President, Field Museum

From its very beginning the Field Museum has been situated on Chicago park land — first in Jackson Park, now in Grant and Burnham. In 1894, the Park System began a funding program which assisted first the Field Museum and the Art Institute and now includes nine museums on Chicago park land. Each year operating funds are provided to these museums which make it possible for them to operate every day of the year for the diverse publics that come to Chicago's parks. In the 1970s, the Chicago Park District entered into a partnership with the museums to issue bonds matching private gifts for capital improvements at the museums. As a result of this extraordinary partnership, Chicago has a galaxy of diverse, world-renowned museums.

Throughout the world, museums are found in city parks so that people can learn while they are away from work. Parks are also places for sports, festivals, and pure relaxation. They are open spaces for urban citizens.

The impressive exhibit "Prairie in the City — Naturalism in Chicago's Parks, 1870–1940," now at the Chicago Historical Society, also speaks to nature and to naturalism in the parks of Chicago, tracing the influence of the Prairie School on the conception and design of the park system. Julia Sniderman of the Chicago Park District, co-curator of the exhibit, writes in a catalogue essay that roads and parking lots, sports facilities, increased vandalism, and the high cost of complex landscaping and maintenance brought the Prairie design tradition to an

end after the 1930s.

"As it has become increasingly difficult to add to the city's venerable tradition of park design," she notes, "the responsibility of stewardship is greater than ever. Recently, the Chicago Park District instituted a preservation program. It is hoped that through this program of public education, landmarks administration, and preservation planning, the Prairie vision will come into focus once again."

While the Field Museum focuses on nature in its original state, we are also concerned about built parks and their role in environmental learning. Jessie Thymes, our director of community outreach, supervises the Museum's work in the parks. Acknowledging "our mission to share the wealth of resources and knowledge of the natural sciences" that are the Museum's stock in trade, Ms. Thymes says it is "vitaly important that we take our resources out to the most appropriate setting: Chicago parks."

"The Outreach program provides hundreds of children each year with the opportunity to learn about the natural sciences in our parks," she informs me. "Workshops are conducted in the parks for children enrolled in the Chicago Park District day camp program. These workshops are on plant life, insect life, and birds common to the Chicagoland region. Exhibit cases and printed materials are part of these outdoor activities in the parks."

Ms. Thymes with other Museum colleagues currently provides natural science workshops for day camps located in parks in eight Chicago neighborhoods. They also furnish small dioramas and experience boxes for

the 238 day camps in all of the city's parks, as well as arranging for visits from those camps to the Museum during the summer.

As we actively work in the parks, we are, however, well aware of the need for a portion of the parks to be devoted to nature itself. Here I turn to the comments of John Wagner, an ecologist in our Department of Education:

"The city parks are not protected ecosystems by any stretch of imagination. They are maintained as open areas with grass, trees, beaches, and lagoons, and are outfitted with various recreational facilities and equipment. What nature exists is tolerant of human impact, from soft to hard. The parks are for people, but design and management policies determine what kinds of recreation are possible. . . . Nature study is largely fortuitous. It need not remain so."

(Mr. Wagner's personal vision for nature education in Chicago's parks and park-based museums is elaborated in an article in this issue of *In the Field*.)

It is important for all of us in the city to understand and respect nature. The Field Museum and the city parks are places where we can learn to do so, and our partnership with the Chicago Park District enables both institutions to offer better learning experiences to all our people — as Museum visitors will discover anew when the dramatic Nature Walk and other components of the first phase of our "Into the Wild" exhibit open in November. Park District funds have provided \$1.3 million of the \$4.8 million cost of this exhibit.

\$250,000 AMERITECH GRANT TO RENOVATE MAORI HOUSE

Ameritech Foundation has donated \$250,000 to renovate the Field Museum's carved Maori meeting house, Ruatēpūke II. A delegation of Maori from New Zealand, including a Maori co-curator for the house, was expected to visit the Museum in late July to finalize plans for the project, which will involve Maori scholars, conservation interns, and expert carvers and weavers.

John Terrell, curator of Ruatēpūke II, said he hoped some of the restoration and renovation work would take place in the Museum "and, in effect, become an exhibit in itself."

Ruatēpūke II is the only Maori meeting house in the New World and one of only three outside New Zealand. It is the only extant Maori house anywhere with a fully carved front porch. It was built about 1880 at Tokomaru Bay on the east coast of New Zealand to replace a house that had been dismantled and

buried in 1828 to protect the carvings, which are lodgings for the spirits of ancestors, from attack by hostile northern tribes.

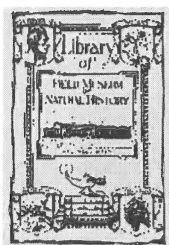
Meeting houses are central to Maori society because they serve as places for the people to stand among their ancestors, speak Maori, and keep alive what it means for them to be Maori. Ruatēpūke was a celebrated ancestor of the Ngāti Porou tribe, and the house and its parts represent his body — the ridgepole is his spine, the rafters his ribs, the gable mask his head, etc.

In 1905, the Museum purchased the house from a German dealer in natural history specimens and ethnological artifacts. While he had obtained the house around 1902, records indicate it was first sold in New Zealand around 1896 — a fact which caused a major tribal rift among its original owners. It was erected in the Museum in 1924–25, three years after the pre-

sent building was opened.

Although Ruatēpūke II is more than 100 years old and has been moved three times, it is in relatively good condition despite some damage and structural distortion. The house is 55 feet long, 22 feet wide, and 14 feet high. Its exterior walls and roof are missing. It will have to be taken apart and cleaned to illuminate the painted designs. German improvisations will be removed and replaced with new, authentic Maori carvings. Because of damage to the ridgepole and the post bases, a new means of support will have to be devised when the house is reinstalled.

When completed, the meeting house will be situated next to the Pacific exhibits on the second floor and will serve as a resource center for further study of Pacific island cultures and natural history.



LIBRARY FRIENDS MEET

The Friends of Field Museum Library held their spring program at the Morton Arboretum in Lisle May 31.

After a reception in the rotunda overlooking the Arboretum grounds, fifteen Friends gathered in the Sterling Morton Library for a presentation by Ian McPhail, curator of rare books, and Nancy Hart Stieber, curator of prints. Entitled "Touch a Hundred Flowers" (from a poem by Edna St. Vincent Millay), the program featured prized examples from the Library's extensive botanical and horticultural collections.

Among the works discussed were a first edition of *Species Plantarum* (Stockholm, 1753) by Linnaeus and a group of paintings by Barbara Dietzsch, an 18th-century Austrian artist.

In the Field

July/August 1991
Vol. 62, No. 4

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In the Field (ISSN #1051-4546) is published bimonthly by Field Museum of Natural History, Roosevelt Road at Lake Shore Drive, Chicago IL 60605-2496. Copyright © 1991 Field Museum of Natural History. Subscriptions \$6.00 annually, \$3.00 for schools. Museum membership includes *In the Field* subscription. Opinions expressed by authors are their own and do not necessarily reflect policy of Field Museum. Unsolicited manuscripts are welcome. Museum phone (312) 922-9410. Notification of address change should include address label and should be sent to Membership Department. POSTMASTER: Send address changes to *In the Field*, Field Museum of Natural History, Second class postage paid at Chicago, Illinois.

James Balodimas GN 85846.1-2

FISH STORY, CONTINUED

By Willy Bemis
Bass Fellow and Research Associate
Department of Geology

The living coelacanth, *Latimeria chalumnae*, continues to provide surprises and provoke controversies about the relationships among vertebrates — especially the origin of land vertebrates (tetrapods). The coelacanths have their partisans, as do the lungfishes.

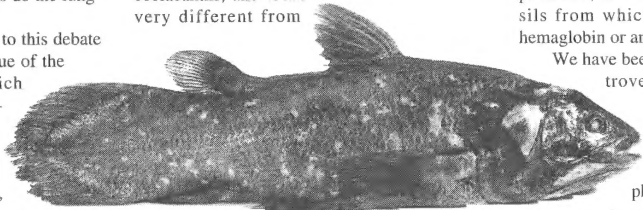
The most recent contribution to this debate is a study reported in a recent issue of the British journal *Nature*, in which Thomas Gorr, Traute Kleinschmidt, and Hans Fricke compare the blood chemistry of the coelacanth, the lungfish, and species of higher bony fishes, frogs, and salamanders. They conclude that *Latimeria* is the closest living relative of the land vertebrates (and thus of human beings). This will certainly not be the last word on the subject, however.

When *Latimeria* was first described by J.L.B. Smith in 1939 it was sensational because it closed a large gap in the fossil record of coelacanths — about 70 million years. But equally important was the fact that coelacanths were regarded as close relatives of another fish lineage, that of the so-called rhipidistians, which were widely believed at the time to include the direct lineal ancestor of tetrapods.

In general, descriptive studies of *Latimeria chalumnae*'s anatomy, physiology, biochemistry, and habitat have not had direct bearing on the tetrapod puzzle. And specimens do not survive capture by line, so we know little about their behavior; what little we do know tends to contradict simple expectations. Hans Fricke, in a small submersible, recently observed how coelacanths use their paired fins: Instead of walking about on the bottom as expected, they flap these muscular fins to move about slowly in the middle of the water column — a manner

of locomotion that none but the most inspired anatomist would have dared to propose.

The coelacanths have many other specialized features. For example, in contrast to both lungfishes and amphibians, *Latimeria* has very large eggs and gives birth to live young — and there is evidence that fossil coelacanths did so too. The rostral organ in the snout is almost certainly a specialized electroreceptor unique to coelacanths, and looks very different from



functionally similar organs in lungfishes and amphibians.

Unfortunately, the structures that might contribute most to understanding the origin of tetrapods are, in coelacanths, typically fish-like. In tetrapods, for example, the mouth and nasal cavity are connected by an opening called the choana, which allows breathing through either orifice. Fishes generally, and coelacanths in particular, do not have a choana — but some ichthyologists consider that lungfishes do. Add to this the fact that many paleontologists no longer regard coelacanths and rhipidistians as close relatives.

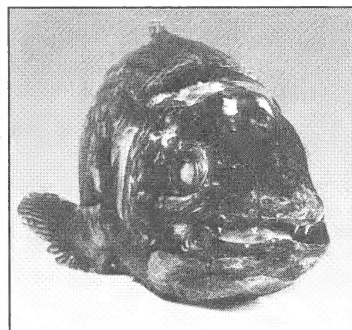
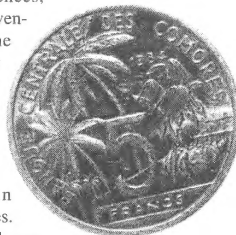
What this adds up to is that there are conspicuously few derived anatomical characters shared only by coelacanths and tetrapods. And that's why it would have been so exciting if Gorr, Kleinschmidt, and Fricke could have provided convincing biochemical characters and analyses showing a close link with tetrapods.

On the basis of their "gene lineage trees" for alpha and beta hemoglobin sequences, however, this is not possible. In a review published

in the same issue of *Nature*, paleontologist Peter Forey points out that if all known sequence data for other molecules are combined into a single data set, then lungfishes emerge as the group nearest to tetrapods. The known sequences, however, are still a limited set. I would venture that we will have exactly the same debate about each individual molecular character system until there is sufficient sequence data to permit a real synthesis of the comparative molecular studies. And then there is the problem of the rhipidistians, now represented only by fossils from which we cannot yet obtain hemoglobin or any other genetic sequences.

We have been debating the coelacanth controversy for 50 years. No single character system taken alone is likely to revolutionize our ideas at this point. Taken altogether, the study of the phylogenetic characters of fishes, or any other group of organisms for

The first coelacanth specimen was collected in 1939 off the mouth of the Chalumna River on the east coast of South Africa. Not until 15 years later was another caught, in the Comorro Islands, midway between the African mainland and Madagascar. More than 150 specimens have since been found in the relatively deep water of the Comoros, which issued a five-franc coin, above, on the occasion of the World Conference on Fishes in 1984.



Top: Z89895; bot:bm, Z89839

that matter, remains in its infancy. What is clear is that most species are no longer among the living, and until we integrate fossil species into our studies it will be hard to avoid false or misleading conclusions based on studies of living species alone.

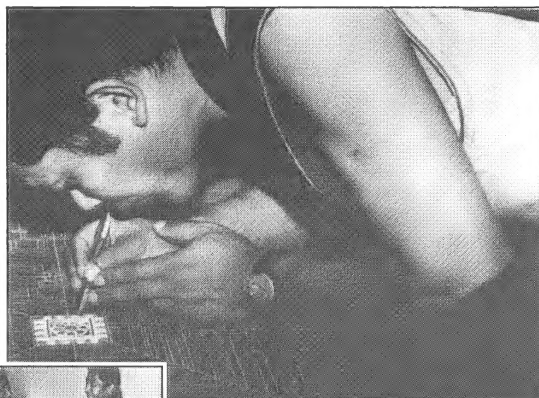
THE GREAT MANDALA



With a ceremony of chants, bells, and prayer wheels, four Tibetan monks began work June 7 in the Museum's North Lounge on an intricate, delicate mandala of colored sand that would be consigned, three weeks later, to the waters of Lake Michigan.

During their stay at the Museum, the monks, from the Dalai Lama's monastery at Dharmasala, India, talked with visitors about Buddhism, Tibetan culture, and the meaning of the mandala, called the Wheel of Time. Its 722 images, representing different aspects of the god Kalachakra, radiate from a lotus blossom on which the god himself sits.

In the monastery, the Kalachakra mandala is created for the enlightenment of initiates, whereupon the sand is scooped up and poured into a river to close the circle of creation, an idea that in secular terms is similar to "environmental consciousness."



Tenzin Dawa, above, applies sand to the innermost precincts of Kalachakra's palace. At near left Tenzin Dawa and Tenzin Choden chat with visitors. The opening ceremony began with the four monks chanting and meditating.

WOMEN'S BOARD at 25

Photographs by John Weinstein

Of the 84 charter members of the Museum's Women's Board when it was founded in 1966, 61 were still active members as the group — now 300 strong — celebrated its 25th anniversary. To mark the event at its annual meeting on May 8, the Women's Board presented a gift to the Museum of \$25,000 for a permanent



Adele Smith Simmons's talk, titled "Reflections," included early memories of her mother, Ellen Thorne Smith, and of Field Museum.



The capacity crowd listened thoughtfully as Mrs. Simmons recalled early days at the Field Museum with her mother, Ellen Thorne Smith.

greeting area in Stanley Field Hall.

The greeting area is being designed in conjunction with a comprehensive reworking of visitor amenities on the Ground Floor and the major entrances. It will enhance the work of the 46 Women's Board members who volunteer in the Ambassadors Program, welcoming visitors and answering their questions about Museum exhibits, programs, and services.

Guest speaker was Adele Smith Simmons, president of the John D. and Catherine T. MacArthur Foundation, one of the nation's largest philanthropies. Mrs. Simmons is the daughter of the late Ellen Thorne Smith, founder of the Women's Board and for many years manager of the Museum's bird collections. In addition, Mrs. Robert Wells Carton commemorated the occasion with a reminis-

Mrs. Howard J. Trienens (left), with her daughter, Mrs. W.W. Kaehler, Jr., who joined the Women's Board in 1990.



cence of the organization's past 25 years.

One hundred forty members, including all nine living past presidents, attended the meeting and a champagne luncheon in the South Gallery.

Under the leadership of its current president, Mrs. Howard J. Trienens, the Women's Board raised \$385,000 for the Museum in

1990. Upcoming events include a fashion show hosted by Marshall Field's on September 6 and the Silver Anniversary Gala on November 1, coinciding with the dedication of the Daniel F. and Ada L. Rice Wing and the opening of the new exhibit "Into the Wild: Animals, Trails, & Tales."



Mrs. B. Edward Bensinger, a charter member and president of the Women's Board in 1972-73, with a photo collage depicting highlights of the past 25 years.



Mrs. Howard J. Trienens, president of the Women's Board (seated, left) with her predecessors. Seated, left to right, are Mrs. T. Stanton Armour (1982-83), Mrs. B. Edward Bensinger (1972-73), Mrs. O. Macrea Patterson (1974-75), and Mrs. Edward F. Swift (1978-79). Standing, left to right, are Mrs. James J. O'Connor (1988-89), Mrs. Philip D. Block III (1984-85), Mrs. Robert Wells Carton (1980-81), Mrs. Joseph E. Rich (1976-77), and Mrs. Malcolm N. Smith (1986-87).

FLORA PORTRAYED: CLASSICS OF BOTANICAL ART

The Field Museum hosts "Flora Portrayed: Classics of Botanical Art From the Hunt Institute Collection," starting August 26 and running until December 1, 1991. The exhibit consists of 88 of the Hunt Institute's finest works, some dating back to the 16th Century.

The Hunt Institute Collection is the culmination of a lifetime of dedication to botanical art by Rachel McMasters Miller Hunt, (1882-1963). Mrs. Hunt turned a childhood fascination with the wildflowers surrounding her family's country home into a lifelong commitment to recording the aesthetic and scientific work of the best botanical artists. Although as she grew older she expanded her interests to include medical botany, taxonomic monographs, and even garden manuals, her first love was botanical illustrations, and over a 60 year period she put together a collection of artworks, books, and original materials dating back to the Renaissance.

When Mr. and Mrs. Hunt decided, in 1961, to donate her collection to the Carnegie Institute of Technology (now Carnegie-Mellon University) to serve as the basis for a research institute, it was widely held that the Hunt Collection was the

finest of its kind.

The University has augmented her collection, which consisted mostly of earlier botanical works, with a cross-section of the finest 20th-century works. It is this interesting marriage of old and new, of some paintings done solely for their aesthetic beauty and others done for their scientific value, that will be on display at the Field Museum.

The first botanical art was done with one thing in mind — practicality. Early people had to know which plants could be eaten, which could cure, and which could kill. Illustrations of these plants were vital so that people could identify them.

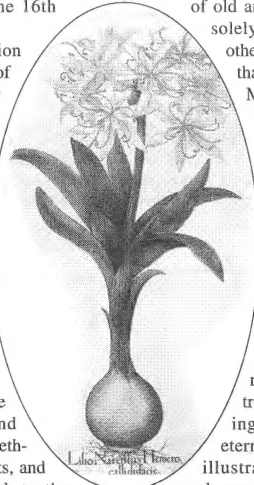
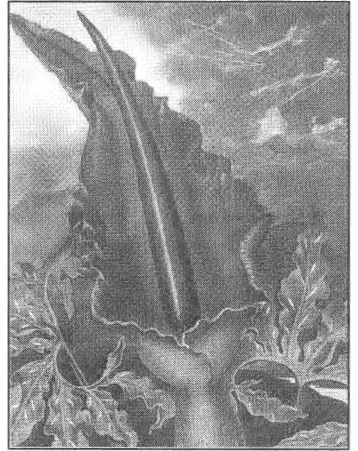
By the 16th century, however, botanical art was flourishing as an artistic vehicle. Royalty and rich people hired resident illustrators to lifetime positions recording their magnificent gardens for eternity, and kings and queens sent illustrators along on the voyages of explorers to depict the plants and flowers that grew in the far corners of the world.

Probably the most famous of all botanical illustrators was Pierre-Joseph Redouté, who has been called the "Raphael of the Rose." Redouté was commissioned by Josephine Bonaparte to record the splendor of the extraordinary gardens

at Malmaison. The exhibit has examples of Redouté's work from that era, when he was at the top of his creative form.

The exhibit also features the work of the Bauer brothers, Franz and Ferdinand, both of whom rank among the greatest of botanical artists; Franz, the elder, spent the majority of his career as the permanent artist for the Royal Gardens at Kew, England (later to become the Royal Botanical Gardens), where he became famous for his microscopical drawings, eventually becoming as well versed in botany as he was in drawing. Ferdinand was more adventurous, taking to sea on a tour of the Levant to study and document the flora there. He also accompanied Captain Matthew Flinders on an expedition to Australia.

Along with the pioneers in the field, modern botanical illustrators are widely represented as well, including Raymond C. Booth, Marilena Pistoia, and Jeanne Holgate.



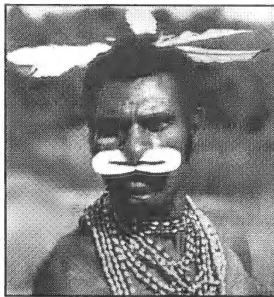
FIELD MUSEUM
THE SMART WAY TO HAVE FUN

ASMAT ARTS FESTIVAL

Dancers and artisans representing the Asmat, Dani, and Sentani peoples of Irian Jaya appear at Field Museum July 25 through August 4 as part of a U.S. tour sponsored by the Asmat Progress and Development Foundation.

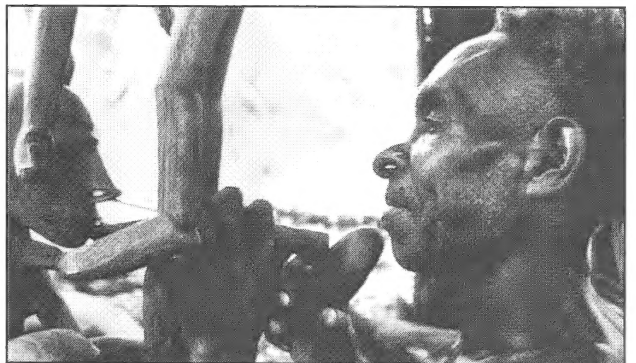
Irian Jaya is the western half of the island of New Guinea. A former Dutch colony, it is now part of Indonesia. The Asmat, numbering about 65,000 people, are the largest and best known ethnic group in Irian Jaya; their land, on the southwest coast of the island and the foothills of the Jayawijaya Mountains, is mostly dense rain forest. Asmat woodcarvings, including elaborate ancestor poles and war shields, are central to community life — the carvings are the people's contact with their ancestors, whose happiness or displeasure affects the living very directly.

The drum is the predom-



inant instrument in Asmat music, but is accompanied by bamboo horns during certain feasts and rituals which may also involve simple dancing. Much of the imagery is symbolic of headhunting, a practice once thought by many Asmat communities to be essential to placating angry ancestors. With the advent of outside cultural influences including Christianity, headhunting has been curtailed or eliminated.

In the Central Highlands, the Dani people also maintain their own well-being by concern for the welfare of their ancestors and spirits, and the use of magic is part of their social system. The Sentani, who live on the north coast around Jayapura, have a longer and more extensive history of contact and



Photographs by Tobias Schneebaum

trade with the outside world, both Indonesians and Europeans.

Dances and demonstrations of woodcarving, weaving, and painting are scheduled daily except Monday, July 29. Check the daily "Field Notes" boards for times. All programs are free with Museum admission.

DANCES OF OAXACA

A company of 65 performers from the Mexican state of Oaxaca presents four programs of regional music and dance at the Museum the weekend of August 9-11. Representing all seven regions of Oaxaca, the performers appear in authentic local dress worn in the annual festival known today as La Guelaguetza, after the ancient custom of mutual assistance among neighbors.

The social institution of *la guelaguetza* goes back to pre-Columbian times among the Zapotec people; each villager may call upon neighbors for help with everything from money

to manual labor, and is obligated to return the favor when needed. The practice persisted in the era of colonialism and became a mark of indigenous identity and pride celebrated in traditional festivities called Lunes del Cerro (literally, Mondays on the Hill) because it took place the last two Mondays of July.

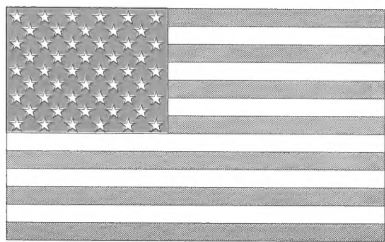
In 1932, the 400th anniversary of the capital city of Oaxaca, communities representing the seven regions joined in a festival that became an annual event and is now generally called La Guelaguetza, for the cooperation among the communities and the sharing

between performers and audiences — many performances end with the dancers tossing pineapples and other treats to the crowd.

The Field Museum appearance of the Oaxaca performers, their first in the United States, is sponsored by the Mexican Cultural and Educational Institute of Chicago, the Oaxaca Club of Chicago, and American Airlines.

Performances are scheduled at 7 p.m. Friday; 3 p.m. and 7 p.m. Saturday; and 11 a.m. Sunday. Tickets are \$15 (\$12 members), and \$8 for seniors and children 16 and under. Call (312) 322-8854.

JULY/AUGUST EVENTS



7/4 Thursday
Independence Day

7/21 Sunday
Summer concert:

"An Afternoon of Jazz and Blues": Billy Branch and the Sons of Blues, Joan Collaso & Band, Shock Wave Jazz Trio, Fernando Jones / Foree Superstar, My Band. 2 p.m.

7/10 Wednesday

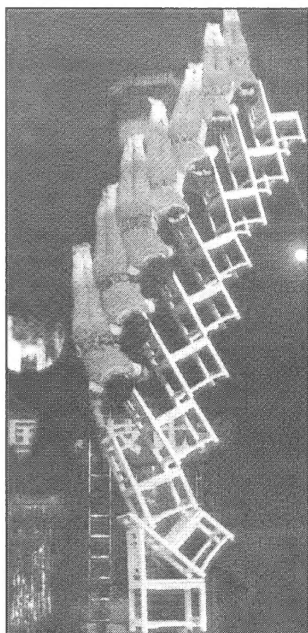
Speleogenesis

The Windy City Grotto of the National Speleological Society meets at 7:30 p.m. (use the west entrance) for a program on "Cave Science and Speleogenesis." The group meets the second Wednesday of every month at the Field Museum.

7/17 - 20

Sister City specials

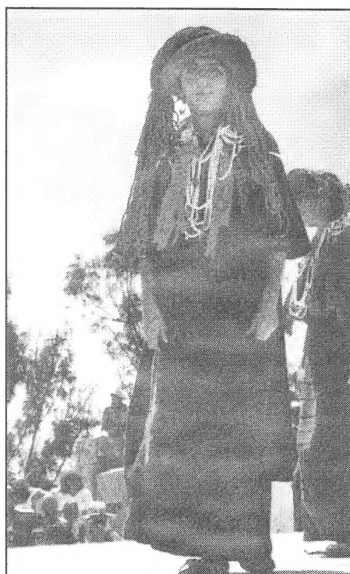
The Shenyang Acrobats from China (July 17, 2 p.m.), the Waiwhetu Maori dance group from New Zealand (July 18 & 19, 2 p.m.), and performances of Japanese court music on the Biwa by musicians from Osaka (July 20, 11 a.m. & 2 p.m.) are part of the festivities attending the national conference of Sister Cities International. These programs are presented in cooperation with the Department of Cultural Affairs, City of Chicago.



8/3 Saturday

Lecture

"Cultures of Indonesia — the Asmat of Irian Jaya" by Peter Van Arsdale, anthropologist/refugee & immigrant specialist, Colorado Division of Mental Health, and Robert Welsh, visiting-associate curator, Department of Anthropology, Field Museum. Tickets are \$3. Call (312) 322-8854.



8/9 - 11

Fiesta de la Guelaguetza

Traditional dances of the Mexican state of Oaxaca will be presented August 9, 10, and 11 by a company of 65 performers appearing for the first time in the United States. Dancers representing each of Oaxaca's seven regions, wearing authentic local dress, perform in the festival, which dates to pre-Columbian times. Tickets are \$15 (\$12 members); \$8 seniors and children 16 and under. Call (312) 322-8854.

8/10 Saturday

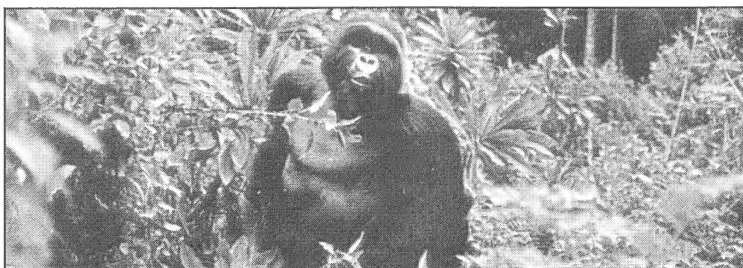
Lecture

"New Discoveries: Merenptah, Israel, & the Exodus," a slide-illustrated lecture by Frank Yurco on the discovery and interpretation of the Canaanite Battle Reliefs. 1 p.m. Tickets are \$12 (\$10 members). Call (312) 322-8854.

8/11 Sunday

Gorilla: Exhibit closes

Last day to see "Gorilla: Struggle for Survival in the Virungas."



7/21 Sunday

Retablo: Exhibit closes

Last day to see "Mexican Retablo Painting: The Art of Private Devotion."

8/18 Sunday

Summer concert

"An Afternoon of Gospel": The best of Chicagoland's church choirs, presented by the Field Museum and the Chicago Urban League.

8/26 Monday

Flora Portrayed: Exhibit opening

"Classics of Botanical Art from the Hunt Institute Collection," through December 1.

Programs & Field Trips

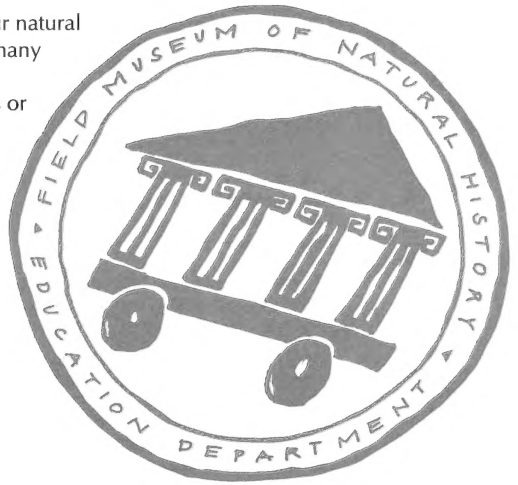
FUN FOR ALL AGES - JULY, AUGUST, SEPTEMBER 1991

elcome! During this session, there is something for everyone. Our natural science classes and field trips offer adults, children and families many opportunities to explore the wonders of our planet.

Adults, grab your hiking gear and head for Grand Mere Dunes or learn relaxation techniques by taking a yoga class. Don't miss the Asmat dancers and artisans visiting from Indonesia. A special lecture will highlight their visit. Children and their parents can discover a rain forest, create a puppet show or join us for an Overnight at the Museum. Pre-registration is required, so register soon to reserve your space. If you have any questions, please call (312) 322-8854.

Joe Byrnes

Joe Byrnes
Program Developer
Adult, Family and Children's Programs



SUMMERTIME!

Children's Workshops

Please Note: Grade listings under each workshop description refer to the grade your child will enter this fall.

Where The Wild Things Still Are

Maryanne Kalin-Miller, Science Teacher,
Frances Parker School

Tropical rain forests are vast natural resources filled with plants and animals seldom found in other habitats. Play a food chain tag game and discover why these forests are important to our planet. Learn about a variety of tropical products we use and the amazing adaptations of animals who call the rain forest home.

CC91042, Grades 4 - 6
Saturday, August 10, 10:00 a.m. - noon
\$12 (\$10 members)

Mystic War Shields

Teri Duncan, Instructor, Field Museum

American Indian warriors carried shields that displayed protective symbols. Each warrior's shield displayed a different symbol which he saw in a vision or dream. Make a shield with your own special symbol while you learn the significance of war shields in American Plains Indian culture.

CC91043, Grades 3 and 4
Saturday, September 7, 10:00 a.m. - noon
\$12 (\$10 members)

What Makes a Fish a Fish?

Tom Rath, Instructor, Field Museum

Have you ever wondered what makes a fish so uniquely adapted to its watery environment? Why do some fish have big eyes and small bodies or others have mouths that always point down? Become an ichthyologist (fish scientist) for a morning as you answer these questions and learn to identify the characteristics that define the habits of a variety of fishes.

CC91044, Grades 5 and 6
Saturday, September 21, 10:00 a.m. - noon
\$12 (\$10 members)

Terrific Teeth

Nancy Saulsbury, Program Developer,
Education Department, Field Museum

Why are some teeth flat and others sharp? Can you tell what an animal eats by looking at its teeth? Explore the connections between teeth and diet by examining specimens at Field Museum and your own teeth.

CC91045, Grades 4 - 6
Saturday, September 21, 10:00 a.m. - noon
\$12 (\$10 members)

Nature Sketchbook

Lori Grove, Scientific Illustrator

Use your observation skills to draw natural objects and learn a technique used for illustrating specimens at Field Museum. After tracing a sketch provided by the instructor, you will learn how to add shading and tone by drawing with small dots or "stipple." Start your own nature sketchbook to record the wonders of nature.

CC91046, Grades 5 and 6
Saturday, September 21, 1:00 - 3:00 p.m.
\$12 (\$10 members)



Northwest Coast Totem Poles

Thea Tomaeno, Instructor, Field Museum

Totem poles are carved from large cedar tree trunks and display the images of various animals and spirits. Each totem pole tells a unique story that has passed from generation to generation. Explore the totem poles at the Museum and create one made from simple materials that tells your own special story.

CC91047, Grades 1 and 2
Saturday, September 28,
10:00 a.m. - noon
\$12 (\$10 members)

Family Overnight

Have you ever seen an African elephant by flashlight at three o'clock in the morning? Have you ever strolled through an Egyptian Mastaba in the dark? If you haven't, then you should come to a Family Overnight at Field Museum! Overnights give families (parents and children grades 1-6) a chance to see the Museum in a way they never have before. In addition to viewing our regular exhibits after hours, Overnights include two natural science workshops, an evening snack, a performance such as storytelling or music, flashlight tours, and continental breakfast in the morning. Don't miss the fun!

CCON007, 5:45 p.m. Saturday, August 17 to
9:00 a.m. Sunday, August 18
\$30 per adult, \$25 per child

Family Workshops

Discovering Fossils

Peter Laraba, Geology Specialist, Education
Department, Field Museum

Parents and children, participate in a simulated fossil dig while learning about common fossils found in the Midwest. Discover the methods used for hunting and preparing fossils and take home a 320-million-year-old fossil to start your own collection.

Parents and Children Grades K - 4
FA91047, Saturday, August 10
FA91048, Saturday, August 24
10:00 a.m. - noon
\$9 per participant (\$7 per member participant)

Animal Encounters

Robert James, Zoologist, Animal Encounters Inc.

Can the porcupine throw its quills? How does the armadillo defend itself? Is the tarantula poisonous? Learn the answers to these questions while seeing, hearing and touching several animals in this mobile zoo. Bring your animal questions and have them answered by an expert.

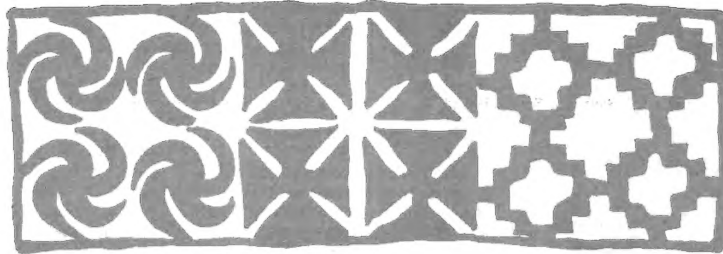
FA91054, Parents and Children Grades K - 3
Saturday, August 24, 10:00 a.m. - noon
FA91049, Parents and Children Grades 4 - 6
Saturday, August 24, 1:00 - 3:00 p.m.
\$9 per participant (\$7 per member participant)

Who's Afraid of Spiders?

Petra Sierwald, Ph.D., Division of Insects,
Field Museum

Did you know that some baby spiders are aerobats that ride on silken streamers or that some spiders hunt like "little tigers" by jumping on their prey? Learn why spiders are so important in nature, the different parts of a spider's body and their special adaptations. See living spiders and make a spider web to take home.

FA91050, Parents and Children Grades K - 4
Saturday, September 7, 10:00 a.m. - noon
\$9 per participant (\$7 per member participant)



Wild Wetlands

John Wagner, Ph. D., Biology Specialist,
Education Department, Field Museum

Bogs, swamps, marshes and sloughs are the wet, spongy homes of many interesting creatures. Discover the unique adaptations of muskrats, mosquitoes, frogs and alligators. Look at microscopic water animals up-close, make bog tea, taste a cranberry treat and test your "wetland I.Q."

FA91051, Parents and Children Grades K - 4
Saturday, September 21, 10:00 a.m. - noon
\$9 per participant (\$7 per member participant)

The Family Puppet Tree

Marilyn Price, Storyteller

Parents and children will work together to create their own family of puppets using simple materials. After making their puppets, families will write and present their puppet show complete with scenery and props.

FA91052, Parents and Children Grades K - 3
Saturday, September 28, 10:00 a.m. - noon
FA91053, Parents and Children Grades 4 - 6
Saturday, September 28, 1:00 - 3:00 p.m.
\$9 per participant (\$7 per member participant)

Tibet: Images of Ancient Beliefs

Lea Atiq, Mask Artist

A blend of ancient beliefs and Buddhism developed a unique Tibetan spiritual view of the world. The union of philosophy and religion will be highlighted as the instructor discusses the dramatic images of deities that adorn households as well as temples. Learn about the shrines and sculptures of the deities in the Museum's Tibet exhibit and their roles in protecting and defending Buddhist law. Also included is a discussion of the monks' masks and ceremonial robes on display.

AC91018, Saturday, July 27
(1 session), 10:00 a.m. - 2:00 p.m.
\$23 (\$18 members)

Textiles of West Africa

Dawn M. Blackman, African Clothing
Designer/Replicator

In Africa, traditional clothing is made with great care and preparation. Fabrics are woven, dyed, or decorated using a variety of techniques to provide colorful and unique materials. Learn the traditions, history and techniques of West African textiles as you examine various textile styles, hand weaves, special dyeing methods, cut pile embroidery, and wax/batik patterns. Create a small hand-stamped adinkra cloth, a traditional art form in Ghana among the Ashanti, for your personal use.

AC91019, Saturday, July 27
(1 session), 10:00 a.m. - 4:00 p.m.
\$35 (\$28 members)

Beginning Origami

Charlotte Matsumura-Bunce, Educator

Three-dimensional flowers, birds, animals, and people emerge from folds of flat paper in origami, the ancient Japanese art of paper folding. A brief history of origami and how it developed from Japanese culture will be covered as you learn eight basic folds from which endless creatures and shapes can be formed. All supplies included.

AC91020, Saturday, August 3 (1 session)
AC91021, Saturday, August 10 (1 session)
9:00 - 11:30 a.m.
\$19 (\$15 members)

Mask Traditions of Northwest Coast Indians

Lea Atiq, Mask Artist

Indians of the Northwest Coast carved and wore masks to interpret myths and legends during elaborate ceremonies such as initiations, potlatch and festivals. A medicine man or Shaman wore masks during curing rituals. The role of masks and the tools and materials used for their construction will be discussed. A workshop is included for participants to make their own mask using clay and papier-mâché.

AC91022, Saturday, August 10
(1 session), 10:00 a.m. - noon
\$19 (\$15 members)



Changing Chicago: Progress, Problems and Prospects

Irving Cutler, Professor Emeritus, Department
of Geography, Chicago State University

Our two-part series begins at Field Museum with a slide presentation addressing aspects of the growth and development of the Chicago metropolitan area from its historic beginnings to the present. Topics covered include: Chicago's unique physical setting, its great diversity of people and neighborhoods, the variety of economic activities, major challenges and plans, and the dispersal to the suburbs. On August 10, we will venture out by bus to selected areas of interest and historical importance and give you an insider's look at Chicago. Please bring a lunch and beverage for the tour.

AC91023
Lecture: Saturday, August 3, 10:00 a.m. - noon
Tour: Saturday, August 10, 9:00 a.m. - 4:00 p.m.
Tour departs from the West Door.
\$50 (\$42 members)

New Discoveries: Merenptah, Israel, and the Exodus

Frank Yurco, Egyptologist

Join Frank Yurco as he discusses and illustrates his recent discovery and interpretation of Merenptah's Canaanite battle reliefs of the Karnak temple in Thebes. These reliefs contain the earliest known depiction of Israelites, which coupled with the pharaoh's year-five victory stela at the Cairo Museum, represent the first solidly attested reference to Israel. Mr. Yurco's presentation will cover the implications of the battle reliefs and stela and their evidence for the possible date of the Exodus and subsequent settlement of the Israelites in Canaan.

AC91024, Saturday, August 10
(1 session), 1:00 - 3:00 p.m.
\$12 (\$10 members)

Hatha Yoga Beginning/Intermediate

Syamalan Nair, Yoga Master

Hatha Yoga is one of the most scientifically proven ways to achieve inner harmony and peace. Learn and practice the complete methods for physical postures, breathing exercises, relaxation, and meditation techniques. More than mere physical fitness, yoga is a complete mind-body system for life-long wellness.

AC91025, Tuesdays, Aug. 13 - Sept. 17
(6 sessions), 7:00 - 9:00 p.m.
\$55 (\$45 members)

Healthful Cooking...Naturally!

Syamalan Nair, Yoga Master

Take the mystique out of healthful eating habits as you learn simple techniques for natural cooking methods and sample the results. Delicious quick-fix vegetarian foods will be highlighted as you learn to prepare a variety of dishes. Experiment with spices and herbs from around the world and discover their delicious and beneficial uses.

AC91031, Wednesdays, Aug. 28 - Sept. 18
(4 sessions), 7:00 - 9:00 p.m.
\$50 (\$42 members)

Adult Courses

The Chronology of Calligraphy: Roman Capitals and Versals

April O'Connor, Art Teacher, Carl Sandburg High School

Derived from the Greek alphabet, Roman capitals are the basis for all Western capital letters. Participants will learn to complete three alphabets: Roman capitals, Roman Rustic, and Versals (elegant capitals used for headings or to begin verses, as shown at left). Demonstrations, workshop time and individual critique will be given during each session. Please note: No previous calligraphic experience is required. Materials will be supplied by the participant (for an approximate cost of \$10) and will be discussed during the first class session. Look for further courses in our Chronology of Calligraphy series in upcoming brochures.

AC91026, Tuesdays, Sept. 10 - Oct. 22
(6 sess.—no class on Oct. 15), 7:00 - 9:00 p.m.
\$60 (\$48 members)

Genesis Rewritten: A History of Natural History

Robert Kiely, Ph.D. candidate, Northwestern University

Examine changing views of the earth's natural history, from the seventeenth century's acceptance of the Book of Genesis to modern notions of moving continents, warm blooded dinosaurs, collisions with comets, and the Big Bang Theory. Along the way, we will study the development and cultural significance of those sciences linked to Natural History: geology, evolutionary biology, paleontology, and cosmology. No previous knowledge of these sciences is required. Selected readings will augment class lectures and discussions (students will purchase their own books).

AC91027, Thursdays, Sept. 12 - Oct. 17
(6 sessions), 7:00 - 9:00 p.m.
\$60 (\$48 members)

Introduction to Chinese Brush Stroke

Monica Liu, Artist

The art of Chinese brush painting, based on the technique of Chinese calligraphy, is a tranquil art at first sight but full of inner dynamics. Learning the various techniques of brush strokes will introduce you to artistic skills and give you a deeper understanding of a rich and ancient culture. A supply list will be available at the first class session. Enrollment limited.

AC91030, Thursdays, September 19 - October 24
(6 sessions), 7:00 - 9:00 p.m.
\$60 (\$48 members)

Adult Field Trips

For all field trips please note the following:
Weather: Field trips go "rain or shine." Be sure to dress appropriately for the conditions.
Transportation: Most adult field trips leave the West Door of Field Museum and travel by chartered coach. See trip descriptions for exact departure times and specific details. All participants should be at the West Door at least 15 minutes prior to the departure time.
Trip Schedule: The trip route and/or schedule may vary slightly at the leader's discretion.
Age: The minimum age for adult field trips is 18 years. Students 13-17 may attend trips only if accompanied by an adult.

These field trips are funded in part by the Ray A. Kroc Environmental Fund.

Changing Chicago: Progress, Problems and Prospects

Irving Cutler, Professor Emeritus, Department of Geography, Chicago State University

This course/field trip will give you an in-depth introduction to the growth of the Chicago Metropolitan area from its historic beginnings to the present. Please see the "Adult Courses" section for a complete description.

Illinois Beach State Park

Floyd Swink, Taxonomist,
The Morton Arboretum
Spend a day hiking and exploring the diversity of habitats at Illinois Beach. We will see a variety of plants including the indigenous juniper, bearberry and prickly pear cactus. Prairie grasses and blue gentians should be at their prime. As we hike, learn about the park's unique ecology. Bring a lunch and beverage. You may want to bring binoculars (and hand lenses if you have them) as we may see some early fall migrants.

FT91020, Saturday, September 14
9:00 a.m. - 4:00 p.m.
Departs from West Door
\$35 (\$28 members)

Hiking Grand Mere Dunes

Kip Miller, Naturalist
Grand Mere Dunes in Michigan offers an expanse of mature woodlands, intertidal lakes, and spectacular vistas along Lake Michigan. During our day-long hike up and down the dunes, learn about the flora and fauna of this unusual Midwestern environment while enjoying the season's colors and late fall flowers. Bring a lunch and beverage and be prepared for a strenuous day of hiking and climbing.

FT91021, Saturday, September 28
8:00 a.m. - 4:00 p.m.
Departs from West Door
\$35 (\$28 members)

Lecture

Cultures of Indonesia— The Asmat of Irian Jaya

Peter Van Arsdale, Ph.D.,
Anthropologist/Refugee and Immigrant Specialist, Colorado Division of Mental Health
Robert Welsch, Ph.D., Visiting Associate Curator, Department of Anthropology, Field Museum

Irian Jaya, Indonesia, home to more than 300 tribal groups each with its own language and culture, is the western half of the island of New Guinea. The Asmat of Irian Jaya have traditionally been hunters and gatherers, known for their spiritual woodcarvings and dances. Join Dr. Van Arsdale, who completed his doctoral dissertation on the Asmat, to explore their beliefs and culture, the demographics and ecology of the area, and the current issues of cultural change. Dr. Welsch will follow, drawing upon his extensive research in Indonesia and Papua New Guinea as he compares and contrasts the Asmat with other cultures of New Guinea. Connections to Field Museum collections and broader Melanesian issues will be developed and analyzed. Following a brief introduction by Kathy Van Arsdale, participants are invited to an Asmat dance performance in Stanley Field Hall at 3:30 p.m.

LL91001, Saturday, August 3
1:00 - 3:30 p.m.

Fee: \$3

These lectures are underwritten in part by the Asmat Progress and Development Foundation.

Performance

La Fiesta de la Guelaguetza

Join us for a festive dance celebration as 65 performers from Oaxaca, Mexico visit Field Museum for their first performance in the United States. Groups from each of Oaxaca's seven regions will perform traditional dances wearing authentic dress of their region. La Fiesta de la Guelaguetza is presented each year in Oaxaca as a harvest thanksgiving and dates to Pre-Columbian times. Don't miss this memorable experience of music and dance.

PP91102: Friday, Aug. 9, 7:00-9:00 p.m.
PP91103: Saturday, Aug. 10, 3:00-5:00 p.m.
PP91104: Saturday, Aug. 10, 7:00-9:00 p.m.
PP1105: Sunday, Aug. 11, 11:00 a.m.-1:00 p.m.
\$15 Adult Nonmembers (\$12 Members)
\$8 Children (16 & under) & Seniors (65 & over)

This performance is offered with the generosity of the Mexican Cultural and Educational Institute of Chicago, the Oaxaca Club of Chicago and American Airlines.



To Register:

Clip the completed registration form below and mail with payment to: Field Museum of Natural History, Department of Education, Program Registration, Roosevelt Road at Lake Shore Drive, Chicago, IL 60605-2497. Please include a business-sized self-addressed, stamped envelope. Registrations are confirmed by mail. Participants who withdraw from a program prior to the first session can receive a refund less a \$10 processing fee. Questions? call (312) 322-8854.



Registration Form

For Ed. Dept. use only: Date received: Date mailed:

Name _____ Membership # _____

Address _____ City _____ State _____ Zip _____

Telephone: Daytime _____ Evening: _____

Program No.	Program Name	# Members	# Nonmembers	Amount

Scholarship requested

Check enclosed

AMEX

VISA

MasterCard

Discover

(Check one)

Card # _____

Expiration date: _____

Signature _____

Visitor Programs for July & August

World Music

Saturday, July 6 & Sunday, July 7

1:00 p.m.
Listen to the blues harmonica of Chicago Beaux.
3:00 p.m.
Musa Mosley demonstrates the playing and crafting of African drums.

Saturday, July 13 & Sunday, July 14

1:00 p.m.
The Chinese Music Society of North America demonstrates instruments of the Chinese orchestra.
3:00 p.m.
Gideon Foli Alorwoyie demonstrates African drums and dancing.

Wednesday, July 17

2:00 p.m.
Shenyang Acrobatic Troupe from China performs.

Thursday, July 18 & Friday, July 19

2:00 p.m. each day
The Waiwhetu Cultural Group from Lower Hut, New Zealand performs traditional Maori music and dance.

Saturday, July 20

11:00 a.m. & 2:00 p.m.
Japanese Biwa performances featuring Ms. K. Yamasaki, a National Treasure of Japan.

Saturday, July 20

1:00 p.m. & 3:00 p.m.
Henry Huff demonstrates a variety of musical styles on the harp.

Sunday, July 21

An Afternoon of Jazz & Blues
2:00 p.m. - 4:45 p.m.
Featuring Billy Branch and the Sons of the Blues; Joan Collaso & Band; Shock Wave Jazz Trio; Fernando Jones / Foree Superstar; and My Band.

Saturday, July 27 & Sunday, July 28

1:00 p.m.
A variety of musical styles on the saxophone are performed by Ari Brown.
3:00 p.m.
Fan Wei-tsu demonstrates the zheng, a Chinese zither.

Saturday, August 3 & Sunday, August 4

1:00 p.m.
Rita Warford highlights women in jazz.
3:00 p.m.
Gideon Foli Alorwoyie demonstrates African drums and dancing.

Saturday, August 10 & Sunday, August 11

1:00 p.m.
Maya Marimba performs Latin American music on the marimba.
3:00 p.m.
Keith Eric performs Jamaican music.

Saturday, August 17

1:00 p.m. & 3:00 p.m.
Fan Wei-tsu demonstrates the zheng, a Chinese zither.

Sunday, August 18

An Afternoon of Gospel Music
Field Museum and the Chicago Urban League present the best of Chicagoland's church choirs.

Saturday, August 24 & Sunday, August 25

1:00 p.m.
The Chinese Music Society of North America demonstrates instruments of the Chinese orchestra.

3:00 p.m.

Musa Mosley demonstrates the playing and crafting of African drums.

Saturday, August 31

1:00 p.m.
Douglas Eward plays flutes from Japan and Australia.

Weekday Activities

Tuesday Highlight Tours

11:00 & 1:00 each Tuesday, July 9 - August 27
Visit the Northwest Coast, Pacific Islands, Dinosaurs, and more during this highlight tour of the Museum. Tours meet at the North Fountain.

Weekend Activities

Weekend tours, lectures, presentations and demonstrations on a wide range of topics are offered to visitors free with Museum admission. Most tours meet at the north fountain in Stanley Field Hall. Check the weekend Field Notes Sheet for more details.

Museum Safari

Saturdays, July 14 & 28, August 4 & 25, 12:30 p.m.

A trek through the four corners of the Museum to see the seven continents. See antiquities from the Amazon, big game from Africa, and seals from the Arctic.

Welcome to Field Museum

Sunday, July 7, 12:00 p.m.
Enjoy a sampling of our most significant exhibits.

Tibet Today & Bhutan, Land of the Thunder Dragon

Saturday, July 6, 1:30p.m.
See Lhasa and other places in Tibet through this slide presentation. Visit another small Himalayan country, Bhutan.

Tibet Today, Faith in Exile and Tour of Tibet Exhibit

Saturday, August 24, 1:30 p.m.
Celebrate the "International Year of Tibet," at this slide presentation on Lhasa and other places now open to tourists in Tibet. Of special interest are slides of the dedication ceremony of a Himalayan Buddhist chorten in Indiana by the Dalai Lama. A tour of the Museum's Tibet exhibit is included.

Stories From Around the World

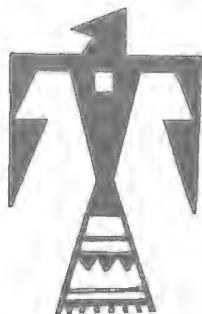
Listen to an interesting collection of folktales from around the world.
Saturdays, July 13 and 27, August 10 and 24
11:00 a.m. & 11:30 a.m.

Hieroglyphs

Ancient Egyptians used a type of picture writing called hieroglyphs. Have our scribe write your name in this ancient alphabet.
Sunday, July 7, 2:00 p.m. - 4:00 p.m.
Saturdays, July 13 & 27, August 10 & 24
12:00 p.m. - 2:00 p.m.

Plains Indian Beading Demonstration

Edgarita Long will demonstrate traditional Pawnee Indian beading patterns and techniques



handed down from her grandmother and mother.
Sundays, July 21, & Aug. 11, 1:00 p.m.-3:00 p.m.

Dinosaur Wagon

Learn about dinosaurs and prehistoric life at the Dinosaur Wagon in Field Museum's Dinosaur Hall. See a dinosaur tooth, discover what dinosaurs ate, take a short hall tour and participate in a variety of hands-on activities.
Sundays, July 13 & 27, 1:00 p.m. - 3:00 p.m.

Specimen Preparation

Meet Field Museum Botany Department preparator Ralph Rogers, Zoology Department Birds Division preparator Tom Gnoske and Geology Department preparator Bob Masek as they work on specimens for Field Museum's research collection. How these items are used for scientific study will be discussed during the demonstration.

Bird Preparation

Saturday, July 13 & Aug. 10,
11:30 a.m. - 4:30 p.m.

Herbarium Specimen Preparation

Saturday, July 20 & Aug. 17,
11:30 a.m. - 4:30 p.m.

Fossil Preparation

Saturday, August 31,
11:30 a.m. - 4:30 p.m.

Webber Resource Center

Native Cultures of the Americas

Webber Resource Center offers books, newspapers, teacher resource materials, video and audio tapes about Native Peoples of the Americas.
Daily 10:00 a.m. - 4:30 p.m.

Pawnee Earth Lodge

Visit the earth lodge and walk into a traditional home of the Pawnee Indians. Handle objects and learn about the mid-19th century daily life of the Pawnee on the Great Plains. Free tickets for programs are available from the South Information desk.
Weekdays: 11:00, 11:30, 1:00 & 1:30 programs
Weekends: 10:00 a.m. - 4:30 p.m.

Place For Wonder

Place for Wonder is a special room of touchable objects. Come examine toys and clothes from Mexico in addition to an array of rocks, fossils, plants, bugs from around the World.
Weekdays: 11:00 a.m. - 4:30 p.m.
Weekends: 10:00 a.m. - 4:30 p.m.

Featured Programs

Asmat: Dynamics of Irian

Asmat, Dani, and Sentani dancers and artisans from Irian Jaya, Indonesia at Field Museum July 25 - July 28 and July 30 - August 4. Demonstrations by artisans of woodcarving, weaving and painting 10:30 a.m.-3:00 p.m. each day.
Dance performances by Asmat and Dani dancers 11:00 a.m. & 2:00 p.m. each day.
Saturday, August 3, 12:00 p.m. & 3:30 p.m.

Public Lecture

Saturday, August 3, 1:00 p.m.-3:00 p.m.
Admission: \$3.00

Cultures Of Indonesia — The Asmat of Irian Jaya

by Peter Van Arsdale, Ph.D., Anthropologist/Refugee and Immigrant Specialist, Colorado Division of Mental Health and Robert Welsch, Ph.D., Visiting Associate Curator, Field Museum Department of Anthropology. For more information call: (312) 322 - 8854.

SCHOOLTEACHER EDITH WALKER:

'THEY CAN LEARN SO MUCH MORE HERE...'

By Steve Crescenzo

Edith Walker's kindergarten class at Willa Cather School on Chicago's West Side had spent the past three weeks working with a scaled-down version of a woodlands Indian lodge, using their imagination to talk about and draw the kinds of people they thought would live in that sort of home, and what kind of things would go on there. They were imagining no longer. They were sitting in the Field Museum's life-size Pawnee Earth Lodge in wide-eyed wonder while a Museum volunteer told tales and talked about the proud people that once lived in homes just like this.

"Auuggghhh, No Way!!," one boy yelled, grimacing and covering his eyes when told that if he was a Pawnee, he would probably have to sleep with his grandmother every night. These kids were learning about Native Americans in a way that would sink in deeper and stay longer than any textbook or classroom lecture ever could.

The children's field trip to the Pawnee Earth Lodge was the final step in a process that tries to ensure that children get the most they can out of a field trip to a Chicago cultural institution, a process designed and developed by the Education Department to help Chicago teachers best utilize the learning tools available in places like the Field Museum. Through a program of workshops and seminars for teachers, portable exhibit cases like the woodland Indian lodge that can be brought to classrooms, and field trips, the Education Department helps teachers learn how to augment their classroom lesson plans with real-life examples from the museums.

The principle behind the program is that a child will retain much more about the Pawnee Indians by actually sitting in one of their lodges, or will want to learn more about ancient Egypt after being taught to write his or her own name in hieroglyphics (via another of the Field Museum's portable exhibit cases).

It is a premise that Walker firmly believes in, having taken part in the workshops, attended the seminars, and brought the take-home materials to her kids at school. "I know this system inside and out, and I know it works. You have to concentrate on a specific area so the kids can get the most out of it, rather than running all over once a year trying to cram everything in," she says.

For instance, this time the class was learn-

ing about Pawnee Indians, and Ms. Walker knew the best way to go about it. She borrowed the miniature woodland lodge, which is very similar to the Pawnee Earth Lodge, from the Harris Center for Educational Loans, used it to familiarize the children with Native Americans, and finally brought them to the Museum so they could see up close what they would otherwise have had to read about in textbooks.

Walker has been involved in Field Museum programs for five years, participating in the various workshops and seminars,

and even finding the time to work as a volunteer in the "Inside Ancient Egypt" exhibit and on most of the Museum Overnights. "If they ever decide to extend the school year," she says, "they should provide time for one or two weeks just to concentrate on museums. They can learn so much more here than sitting up there in those silly classrooms. They pick up art, social sciences, culture, and are able to use the resources that teachers just don't have."

Walker, who has been a teacher "all my life," first got involved in the Museum because of her now ten-year-old son. She wanted him to not just go to the Museum, but to *know* the museum. "I really got involved for his sake. I wanted him to be able to focus on something positive, and I wanted to be able to show him the way. Now he knows the Museum as well as I do."

Walker takes her kindergarten class to the Field Museum at least twice each school year, not counting the annual trip she makes during Black History Month.

The trips out of the neighborhood to visit the different museums mean a lot to the kids at Cather School. Many of them live next to, if not actually in, the Henry Horner Homes, a particularly violent housing project recently



Edith Walker leads her Cather School kindergartners on their second visit to the Field Museum in June.

Steve Crescenzo

1991 SUMMER COURSES

Field Museum will once again be offering a wide variety of educator workshops this summer. Everything from "On The Move Again," a study of plate tectonics, to "Ancient Cultures of the Valley of Mexico" will be covered. The one-day workshops costs \$10, and kick off Tuesday, July 16 with "A World of Difference: A Campaign to Combat Prejudice."

brought into the national spotlight by veteran journalist Alex Kotlowitz's eye-opening book, *There Are No Children Here*. The book depicts the plight of a typical housing development family, and has drawn national attention to the horrors of everyday life in the projects. Two of the book's main characters are teenage boys, and the harsh reality of growing up in that environment is brought to life.

"I'm afraid they have very limited exposure," sighs Walker, watching as her well-behaved kids enthusiastically pile into the Pawnee Lodge. "For a lot of them, their first field trip here with me will also be the first time they see the lake. It's just great for them to go somewhere, to get away."

Walker is a firm believer that it is up to the teachers in the inner city to provide their students with the exposure that a field trip to a Chicago cultural institution will provide. "Look around," she says, waving her hand around the first floor of the Museum. "Relatively speaking, African-Americans don't take their kids to the Museum, so the only chance they have to go is if their teachers are willing to take them."

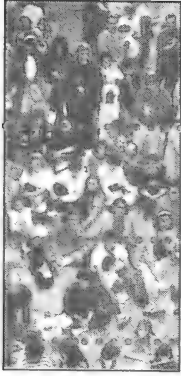
Although Walker's flock is here for a class field trip, watching them, you get the feeling they are more of a big, happy family. Walker seems to personify that unique power that kindergarten teachers have over their charges; scolding here, comforting there — her kids, who come from one of the most violent areas in the city, are today the best-behaved group in the Museum.

The children's visit to the Pawnee Lodge ends with the volunteer teaching them some simple Pawnee sign language. Watching them sign goodbye in Pawnee, getting ready to go back to a world where flashing the wrong gang sign can be fatal, you begin to see the value of offering kids alternate windows on the world.



Steve Crescenzo

MEMBERS' NIGHT,
1991

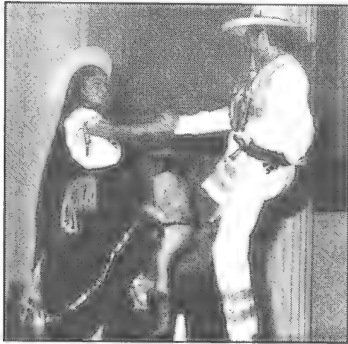


Dave Rasch, a conservator who specializes in animals, works on the nose of a mandrill for "Into The Wild."



A young girl pokes through a pile of seemingly ordinary rocks. Her mission: Find a fossil!!

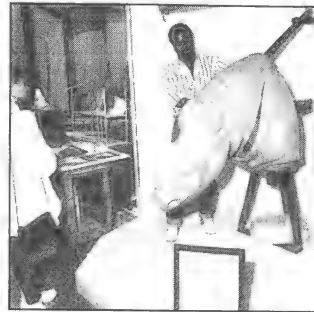
Photographs by
John Weinstein and James Balodimas



The Mexican Folkloric Dance Company of Chicago provides some of the entertainment for guests at Member's Night.



Preparator Rudy Garcia shows off different molds and materials used to make leaves for the Nature Walk, a part of "Into The Wild," the new exhibit on the animal kingdom.



Preparator Joe Searcy demonstrates the moveable head of a rhino that will be a part of the new "Africa" exhibit.



Jonathan Haas, Vice-President for Collections and Research, shows visitors how pottery shards from his Northern Rio Grande research project are analyzed.

John Flynn, Department of Geology, shows visitors the tail of a glyptodont, a 2-million to 5-million-year-old creature related to the armadillo. This particular fossil was found in Argentina.



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- July 20 . . . 2 P.M. Polish Dollmaking
- July 27 . . . 12-2 P.M. . . . Reptiles
- Aug. 17. 12-2P.M. African Musical Instruments
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PARKS & MUSEUMS

A LETTER FOR THE FUTURE FILE

By John Wagner
Department of Education

The year is 2018. The place is Chicago and the time is mid-July. I live on the West Side near Madison and Central. My family and I have experienced some remarkable changes.

News from Chicago, July 6, 2018

Dear Michael,

Isn't it great, the Cubs just won another game. Yesterday afternoon I took little Tim and Martha to visit the butterfly garden in Columbus Park. We saw swallowtails and fritillaries sip sweet nectar from lantanas and buddleahs and then hiked to the adjacent Betz Prairie to see which plants were in bloom. This is native prairie in the city, where bulldozed rubble was replaced with rich Illinois loam and people in the neighborhood organized to plant and manage four city blocks of nature.

Environmental values are strong now and no teacher or political teacher fails to reinforce ideas that have quickly become a way of life. Cecile even bicycles to shop when she chooses by using the new trail network that spider webs across the city.

The city's Department of Environment has

had many successes helping neighborhoods become more lovable. Who would have thought a ginkgo forest would thrive in a former rail yard, but the trees are now twenty feet tall and volunteer enthusiasm make it possible.

After supper I sat on the porch and watched the kids chase fireflies. Houses and apartments are now built with space between them for gardens, yards, and hedges. The kids called me to see a noisy hawkmoth feeding on Aunt Dorothy's flowers. What a great day.

Tuesday I joined Steve and Rita who had come in from the agrocenter in DeKalb. We met on the east steps of the science museum in Jackson Park to see the "dune walk" recently featured in *National Geographic*. Michael, you've got to see this! The Chicago Park District has worked with the ecologists at Indiana Dunes National Lakeshore to recreate what feels like a presettlement environment. For two miles along the lakefront they pumped sand from offshore bars to form two parallel dune ridges.

We walked a trail festooned with clumps of Marram grass and splashed with bright orange-yellow pucoon. There are even clusters of cottonwood further back. Nobody walks the beach here, but there are a number of observation platforms. We watched sanderlings and ruddy

turnstones hunt for lunch along the waterline. It's remarkable how wildlife responded and colonized this area. Of course the "Biostudy classes" offered by the NatureWorks consortium make productive use of this beach park, as well as all the others. Once the schools, museums, bird watchers, and the Park District got together, NatureWorks really caught on. Remember too, there's still plenty of public beach. I think we've gained more than we've given up.

Our next stop was north at Fort Dearborn. You may recall in the mid-90s when Jack Kelly got the city to back his plan. High school students and volunteers worked over several seasons to build replicas of DuSables post, Kinsey's farm, and the fort. This piece of early Chicago is just south of McCormick Place. We watched some costumed voyagers arrive with fur bales. One giant canoe even carried a pig. Living history reenactments like these really make the textbooks talk. Even better than lasergrams.

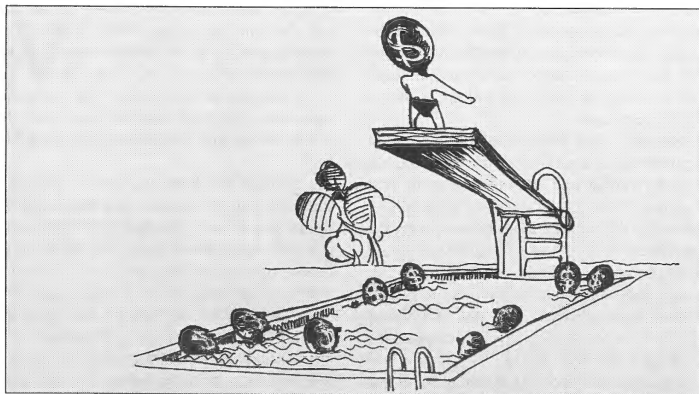
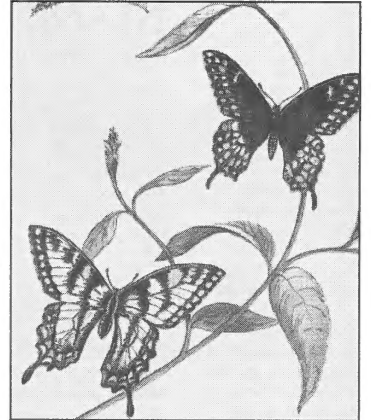
After watching a canoe race we took the monorail for a quiet ride to the museum campus in Grant and Burnham Parks. The Adler Planetarium, Shedd Aquarium, and the Field Museum of Natural History are all unified by broad pathways that wind through lovely gardens. We had a fine supper at the Aquarium's restaurant with a spectacular view of the city backlit by a setting magenta sun.

Following supper we attended an evening hologram program on evolution at the Field Museum. A young paleoanthropologist, Bright Star Valdez, of NAES University has made some startling discoveries on human origins in Nigeria. The hologram projections seemed too real for me, but the question and discussion session was exciting. I wonder if we'll ever unravel the story of our own evolution?

We took the magneto-track home. I got off at Central and Steve and Rita rode to the free-park satellite hub in Oak Brook. Few people need to drive to the city center anymore. Public transit is clean, safe, non-stressful, and efficient.

Let me hear from you soon. I know you are busy on the space orbiter but I like to get news from our own astrophycologist. Letters are old fashioned, I know, so if you use the dictoscan that's fine. Keep your feet on the floor if you can find it.

Love, Dad.



This month, each participant in the
Field Museum's Pooled Income Fund
will receive an income check.

Why not join them?

For more information about how you can benefit from joining
the Museum's Pooled Income Fund,
please call or write for your complimentary copy of
"How the Pooled Income Fund Works for You, and us. . ."

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Melinda Pruett-Jones
Development Office
Field Museum of Natural History
Roosevelt Road at Lake Shore Drive
Chicago, Illinois 60606

(312) 322-8868

NEANDERTHAL . . .

(Continued from page 1)

The transition to culturally, as distinct from anatomically modern humans, was marked by the development of the bow and arrow, the fishhook, and other technology about 50,000 years ago that allowed Late Stone Age people to kill more dangerous animals than their predecessors could. The boar hunt below (from the Museum's now-extinct Cro-Magnon diorama) reflects conditions 12,000 years ago.



FMNH A111668

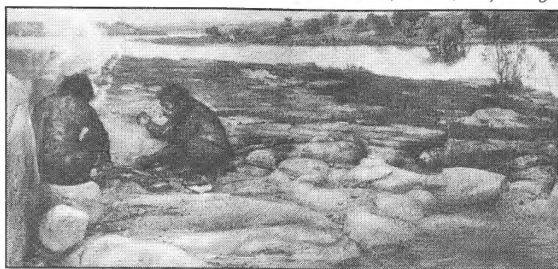
pean and Asian Neanderthals, and that the "moderns" spread throughout the globe during the next 60,000 years, completely displacing the "archaics." A 1988 paper co-authored with his colleague Peter Andrews, published in *Science* magazine under the title "Genetic and Fossil Evidence for the Origin of Modern Humans," summed up the evidence to that time.

The recent-African-origin model is variously labeled "Out of Africa," "Noah's Ark," "Eve," and "the Garden of Eden." Such designations, employed even playfully by scientists, suggest the depths of meaning and feeling that attach to this debate. So too does the imagery of "African invaders" vanquishing the "indigenous natives of other continents" employed derisively by opponents of the theory.

"Eve" comes into the picture by way of the geneticists' contribution to the debate, principally a 1987 article in *Nature* ("Mitochondrial DNA and Human Evolution") that made headlines round the world. Rebecca L. Cann and her colleagues, then graduate students in bio-

cally modern humans with the regional characteristics we commonly recognize as present-day racial features.

Stringer, Cann, and Wolpoff were among the participants in the Field Museum event, the 14th annual Spring Systematics Symposium, organized by Matthew H. Nitecki of the Department of Geology with financial support from the Museum and from Ray and Jean Auel (she being the author of the best-selling novel *Clan of the Cave Bear*). Both Wolpoff and Cann introduced their remarks by recalling the impact that the Museum's exhibit on prehistoric people had made on them when they were young. "Those dioramas started my interest in evolution," said Cann, who was an Iowa schoolgirl when she first came to the Museum and is now a geneticist at the University of Hawaii.



FMNH A78851

What really distinguishes us as a species, Wolpoff said, is not how we look but what we do.

Stringer, reviewing the development of his thinking on the subject, told the gathering that he had come of age as a scientist under the influence of a seminal 1964 article in *Current Anthropology* by C. Loring Brace, which argued that the Neanderthals were probably the ancestors of anatomically modern humans. But, he said, later fossil discoveries showed that

chemistry at the University of California at Berkeley, reported that comparison of DNA from 147 living persons representing populations in Africa, Asia, Australia, New Guinea, and Europe showed that they all had one common ancestor — "one woman who is postulated to have lived about 200,000 years ago, probably in Africa." Cann has called this woman "our Lucky Mother" because only her genes, of all her contemporaries, have survived the ages.

Milford H. Wolpoff, a physical anthropologist at the University of Michigan, is a leading contemporary advocate of the multiregional-evolution model, sometimes called "the Candelabra" for its branching patterns. He contends that populations of *Homo erectus* that left Africa as long as 1.4 million years ago and colonized Europe and Asia gradually developed regional differences; these people evolved into regionally different archaic *Homo sapiens* (Neanderthals) who then evolved into anatomi-

Neanderthals and moderns lived contemporaneously in Europe and in the Near East. By 1970, there was evidence that modern humans lived in Africa at least 100,000 and perhaps 200,000 years ago.

Between 1974 and 1978, Stringer sought to construct an analysis of the relationship between Neanderthals and moderns using first a "phenetic" and then a "cladistic" approach — referring to different methods of comparing the characteristics of groups of organisms. These led him to an increasingly confident view that Neanderthals and moderns were the results of different evolutionary trends, and in 1982 he published for the first time a statement of the recent-African-origins model.

At about this time the biochemists began to weigh in on the subject. Protein studies indicated that while contemporary humans display a wide variety of features, most of the genetic variation (84 percent) is a result of differences

between individuals within regional populations ("races") and nationalities (6 percent), and only 10 percent represents differences between races. Moreover, it was reported, the within-group variation among sub-Saharan Africans is greater than that within any other population, indicating that the population has existed much longer than any other.

Then, on January 1, 1987, Rebecca Cann and her colleagues stunned the world with the report of their study of human mitochondrial DNA (mtDNA), which is inherited from the earliest forms of life. (The mitochondria are tiny energy-producing bodies within each cell but outside the nucleus, where ordinary human DNA is located.)

MtDNA is believed to mutate at a constant rate, which Cann estimated at 2 to 4 percent per million years in humans, three times faster than the DNA in the nucleus. It is inherited only through the maternal line, and does not undergo recombination. Using "restriction enzymes," which are sequences of chemical bases that match (in mirror image) particular portions of DNA, the researchers were able to identify 195 sites along the DNA strand that were not shared by all of the 147 people studied. Comparing these differences among the subjects, they found 133 "types" from which they produced a genealogical tree with two primary branches, one consisting entirely of Africans and the other including Africans and all the other populations. Both branches stemmed from mtDNA type *a* — the Lucky Mother.

Cann told the symposium that researchers have now examined mtDNA from more than 4,000 living humans and that her thesis has held.

Stringer and Andrews, in their 1988 paper summarizing the accumulated fossil and biochemical evidence, concluded: "[P]aleoanthropologists who ignore the increasing wealth of genetic data on human population relationships will do so at their peril." It is not clear what consequences they had in mind, but whatever it was Milford Wolpoff wasn't intimidated.

Wolpoff insisted at the symposium that the real evidence is in the bones, not the genes. There are alternative explanations of Cann's data that do not support the "Eve" hypothesis, he said, and he dissented strongly from the assertion by several speakers that the fossils themselves show a closer similarity between early modern humans on the various continents than between the early moderns and their local archaic predecessors. "Any definition of modern *Homo sapiens* that accommodates all [the variety among] living humans will include a large number of Neanderthals," he said. A series of slides of Chinese fossils dating back as far as one million years showed what Wolpoff said is unmistakable continuity of certain Chinese facial characteristics to the present day. What really distinguishes us as a species, Wolpoff said, is not how we look but what we do: "*Homo sapiens* is largely a behavior, a state of mind."

Cann, for her part, replied that she thought the evidence might indeed be in the bones. "New mitochondrial DNA techniques can be more precise," she said. "Technology for extracting DNA from bone will be important in deciding this controversy."

WHY WE HAVE PIANO LESSONS

More than our good looks made us more successful than the Neanderthals. Speakers on both sides of the debate over the origin of modern humans argued that culture was more important than cranial features in distinguishing us from our predecessors.

Richard G. Klein of the University of Chicago said that "the only meaningful archaeological break" that distinguishes the world of the Neanderthal from the world of the modern occurs at about 40,000 to 50,000 years ago. Before then, he said, people didn't seem to have an intellectual "template" for making artifacts, while after that time there is the beginning of art and the use of ivory,

bone, antler, and other materials for making utensils and ornaments.

Before that time, the dead were buried very simply. Afterwards, there are elaborate graves and evidence of ceremony or ritual. Before, people lived only in warm or temperate climates; afterwards advances in shelter-building permit the occupation of Siberia and other inclement places.

Thus, Klein argued, although anatomically modern humans had appeared by 100,000 years ago, "there was a lag of about 50,000 years" before modern culture appeared — "and it was only when anatomically modern humans developed culture that they could displace the archaics."

COSTA RICA QUAKE

'MY BROTHER IS STILL IMPRESSED'

Those of us with friends and cooperative projects in Costa Rica were concerned when we heard that a major earthquake had struck this Central American republic a few weeks ago. Television news showed heavy damage in the Caribbean port city of Limón. The strength of the quake was reported as 7.4 on the Richter scale, and the epicenter appeared to be along the Caribbean coast near the Costa Rica-Panama border.

Telephone calls and letters have reassured us that San José, the capital city in the central highlands, had suffered only minor damage and few people were injured. The narrow-gauge railroad that winds its way down steep mountain sides to the Caribbean was badly damaged, but the new highway to Limón was unaffected. Tourist facilities had been little disturbed and are now fully operational, even in Limón. All this was reassuring news, since Field Museum has a scheduled tour to Costa Rica in late November. Some things have changed, however.

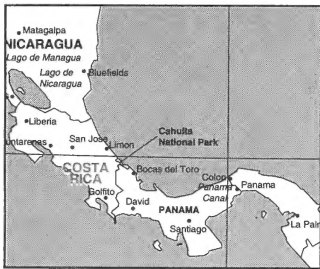
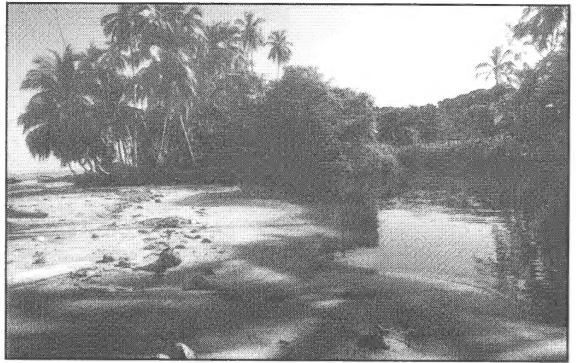
Our colleague, Jorge Gomez-Laurito, a botanist at the University of Costa Rica, writes that his brother was walking along the breakwater near Limón when the

earthquake struck. The force of the jolt knocked him to the ground, and he watched as the breakwater separated - and then rejoined the land. Two weeks later, Jorge writes, "my brother is still impressed."

It was not just the strength of the quake that made this such an unusual event. Jorge writes that today the city of Limón is 1.3 meters (4 feet) higher than it was before the quake!

The sudden rise of the Caribbean coastline has rearranged Cahuita National Park. The park contained a beautiful, mile-long, white sand beach (above) fringed with stately coconut palms, a swamp forest behind the shore, and nearby coral reefs. The palms and trees were thrown to the ground; the swamp forest is no longer a swamp; the corals are exposed and dying. Rarely does a single earthquake cause such a dramatic change in the landscape. We'll get a chance to take a first-hand look in November.

—William Burger, Department of Botany



ICY ADVENTURE

GREENLAND AND THE CANADIAN ARCTIC

August 14 – 26, 1991

White-tailed eagles. Arctic foxes. Crystalline waterfalls. Meadows carpeted with wildflowers. All this awaits travelers in the untamed, unspoiled wilderness of Greenland and the Canadian Arctic.

A Field Museum tour August 14 to 26 under the leadership of four distinguished academics presents a rare opportunity to visit a region where very few people have ever set foot.

Rolf M. Schuster is a Fellow of the Field Museum and of the Linnean Society who has spent five seasons in the Arctic and is an authority on the flora and geological history of the region.

Stephen Pruett-Jones is a member of the Department of Ecology and Evolution at the University of Chicago and a research associate at the Field Museum. He is an expert in animal behavior, wildlife ecology, and Arctic biology.

Ronald Smith is professor of geology and geophysics at Yale University. He is associate editor of the *Journal of Atmospheric Science* and is a member of the U.S. Committee for the Global Atmospheric Research Program.

Marion Jackson is associate dean and associate professor at the University of Michigan School of Art. An expert on Inuit art, culture, language, and history, she has visited the Canadian Arctic more than 15 times and has lived for extended periods with Inuit families.

The tour group will sail aboard the *Illiria*, a luxurious vessel with all the amenities of a large cruise ship but small and agile enough to navigate the narrow fjords, bays, and inlets of the Arctic coast with ease. Its fleet of Zodiac landing craft will ferry passengers from ship to shore.

The first four days aboard *Illiria* will be spent exploring Greenland's fjords, including the spectacular sparkling icebergs of Itivleq Fjord. Weather permitting, passengers will disembark for a nature walk to the "Lake of Strange Salmon." The final day in Greenland

features a stop at the village of Umanak with its 500-year-old Thule burial ground. — a cave where eight mummies were discovered, and more than 100 graves are cut into the cave walls.

The cruise then visits many of the Northwest Territory islands of the Canadian Arctic

and a series of great fjords, including the Auyuittuq National Park Reserve with its towering cliffs, some of which are 3,000 to 4,000 feet high.

Cruise and land fares range from \$4,595 to \$5,745 per person. For more information, call (312) 322-8862.

GREAT BARRIER REEF AND PAPUA NEW GUINEA

January 17 – 31, 1992

Following a flight from Chicago to Cairns, and a day at leisure, the Field Museum tour of the Great Barrier Reef and Papua New Guinea begins aboard the world's largest sailing catamaran, the five-star *Ocean Spirit*. The reef stretches more than 1,200 miles along the northern half of Australia's east coast, with nearly 900 species of bejeweled fish.

The destination is the maturing sand island of Michaelmas Cay, known as the "Isle of Birds," and is home to over 28,000 migratory sea birds of 14 different species.

The group flies from Cairns to Port Moresby for a day of visits to the National Museum with its excellent collection of Melanesian art, the artistically decorated government buildings, the National Art School, and the university's Botanical Gardens, world-famous for their extensive orchid collection.

The luxurious *Melanesian Discoverer* will be headquarters for a five-day cruise of the Sepik River, a world of its own with meandering waterways, villages on stilts, and colorful tribal living.

Among the villages we may visit, Korogo is famous for its Mei Masks; Yentchen has a beau-

tifully thatched Haus Tambaran; Chambri Lakes is home to many species of exotic birds; Aibom is known as the pottery village of the Middle Sepik; the verdant tropical island of Manam; the stilted vilage of Kambaramba where not so long ago men still traded women for commodities.

The group disembarks at Madang, and after a day enjoying the amenities of the Madang Resort Hotel, we fly by charter to Tari in the exotic Southern Highlands, staying at Ambua Lodge, magnificently situated in the tropical forest at an altitude of 7,000 feet. The Tari Market is a highlight of our stay, with women carrying great loads of fruits and vegetables in colorful bilbums hanging on their backs, and the men parade in their enormous wigs made of human hair, gaily decorated with fresh flowers and rare feathers.

Cruise and land fare price is \$6,850 per person. (Double Occupancy) For more information, call (312) 322-8862.



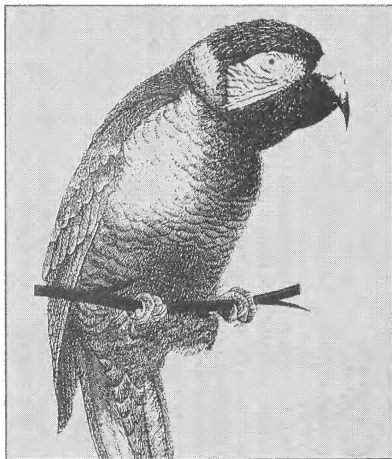
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Costa Rica

A land of unparalleled diversity, with lowland jungles, high-altitude cloud forests, black-sand and coral beaches, mountainous paramos, volcanoes, and some of the most beautiful tropical white-water rivers to be found anywhere, all preserved by the most remarkable national park system in the world.



The group is limited to 20 participants. Price is \$3,350 per person, and includes round-trip air transportation from Chicago. A deposit of \$250 per person will hold your reservation.

We'll be accompanied throughout by Dr. William C. Burger, the Field Museum's curator of vascular plants, and Dr. Julio Sanchez, chief curator of birds at the National Museum of Costa Rica. Dr. Burger, a specialist in the flora of Costa Rica, is also a highly skilled nature photographer and will share that expertise with tour members as well.

Costa Rica Tropical Adventure

November 27 – December 8, 1991



Please request information on these 1991 and 1992 tour programs:

- Canadian Arctic and Greenland aboard *Illiria*, August 14–26, 1991
- Papua New Guinea / Sepik River Cruise by Yacht — and Australia's Great Barrier Reef, January 17–31, 1992
- The Galapagos Islands, January 24–February 6, 1992
- Egypt and the Nile by Yacht, January 26–February 15, 1992
- West Africa Cultural Tour, February 22–March 14, 1992